

Amendments to the Specification:

On page 1, lines 14, 15 and 16, please replace the paragraph with the following amended paragraph:

The present invention relates, in general, to an auxiliary tool for a histological or a cytological examination of a biopsy specimen. More particularly, the present invention relates to an auxiliary tool for an examination of a biopsy specimen, comprising a plate and a cover, each of which is in a gel form to allow for flowing in and out of a solvent, wherein the plate is equipped with at least one depression provided as a space on a surface thereof into which a biopsy specimen is introduced, and the cover is equipped with at least one projection provided on a surface thereof for covering the depression of the plate by being inserted thereinto.

On page 2, line 11, please replace the paragraph with the following amended paragraph:

On the other hand, the above problems can be overcome by evaluating a specimen to be examined using a histological method. With this method, a specimen is prepared, subjected to a desired test such as staining, and then microscopically observed. In other words, first a specimen to be tested is solidified in a cassette and then the solidified specimen is taken out from the cassette, positioned at a lower portion of a base mold and embedded in paraffin. The resulting embedding block is cut into a thin ~~section~~ sections. The thin sections are then placed onto slides and microscopically evaluated. In this method, the solidification of the specimen in the storage cassette is accomplished by directly filling the cassette with a coagulant such as paraffin, or by enclosing the material with filter paper, plasma, etc. and then solidifying the above material by inserting a coagulant such as proteins or

1 , polysaccharides into the cassette.

2 On page 2, line 23, please replace the paragraph with the following amended
3 paragraph:

4 Unlike the direct smearing method the above embedding block-preparing method
5 allows a specimen to be subjected to all of several tests required for a medical diagnosis since
6 it provides several thin sections from an embedding block of a single specimen, each of
7 which is placed onto a slide. However, the embedding block-providing method is
8 disadvantageous in terms that a microscopic thin section on a slide has a potential of being
9 mixed with other sections on other slides or contaminated with unnecessary reagents because
10 of being exposed on the slides, and thus, ~~that~~ the test results may be unreliable.

11 On page 3, line 1, please replace the paragraph with the following amended
12 paragraph:

13 ~~A Histological~~ histological or cytological ~~preparations~~ preparation method is
14 disclosed in Japanese Pat. Publication No. 2002-303568, which comprises introducing a
15 specimen into a storage cassette, solidifying the specimen with a fixing support containing
16 glucomannan and formalin, gelating the solidified specimen with acetone, polyethylene
17 glycol or glycerine, and the like, placing the gelated specimen at a lower portion of the
18 storage cassette and embedding the gelated specimen in paraffin, sectioning a resulting block
19 using a cutting tool to provide histological or cytological preparations. However, this method
20 may cause a specimen to be contaminated with the solidifying substances because of directly
21 introducing the specimen into the storage cassette and solidifying the specimen therein. Also,
22 since the storage cassette is porous, with this method, it is impossible to prepare histological
23 or cytological preparations by directly introducing very small amounts of the solidifying

1 substances or viscous samples into the storage cassette.

2 On pages 3-4, line 2, please replace the paragraph with the following amended
3 paragraph:

4 Conducted by the present inventors, the thorough and intensive research to solve the
5 problems encountered in the prior art resulted in the development of an auxiliary tool for
6 examination of a biopsy specimen, comprising a plate and a cover, which is capable of
7 preventing a specimen from being contaminated and lost. The present invention also enables
8 ~~to process~~ the processing of a very small amount of a solid or viscous specimen into a
9 histological or cytological preparation simply and accurately.

10 On page 4, line 22, please replace the paragraph with the following amended
11 paragraph:

12 Fig. 3 is a sectional view showing a state at which the cover of the auxiliary tool of
13 ~~FIG.~~ Fig. 1 is inserted into the plate thereof.

14 On page 5, line 2, please replace the paragraph with the following amended
15 paragraph:

16 Fig. 5 is a top plane view of a thin section of the embedding block of ~~FIG.~~ Fig. 4,
17 which is placed on a slide for microscopic examination of the biopsy specimen.

18 On page 5, lines 8, 9, 10, 11 and 12, please replace the paragraph with the following
19 amended paragraph:

20 The auxiliary tool of the present invention comprises a plate 2 and a cover 4, each of
21 which is in a gel form to allow for flowing in and out of a solvent, wherein the plate 2 is
22 equipped with at least one depression 6 provided on a surface thereof as a space into which a
23 biopsy specimen is introduced, and the cover 4 is equipped with at least one projection 8

1 , provided on a surface thereof for covering the depression 6 of the plate 2 by being inserted
2 thereinto.

3 On pages 5-6, lines 23 and 1, please replace the paragraph with the following
4 amended paragraph:

5 The auxiliary tool of the present invention is composed of the plate 2 and the cover 4.
6 Due to their properties of being present in a gel form, the plate 2 and the cover 4 both allow
7 for flowing in and out of a solvent by the osmosis principle, are able to prevent a biopsy
8 specimen to be examined from being contaminated with other specimens or impurities by
9 preventing their penetration thereinto, and are able to prevent loss of the biopsy specimen to
10 be examined.

11 On page 6, line 6, please replace the paragraph with the following amended
12 paragraph:

13 To be prepared in a gel form, each of the plate 2 and the cover 4 as the major
14 components of the present auxiliary tool is made of a substance forming a gel at about 20°C
15 to 40°C and not melted at 70°C to 90°C. Preferred are agarose, agar or gelatin, but the
16 substance is not limited to the examples. The substance may be present in a solid phase or a
17 liquid phase. In case of being in a solid phase, the substance may be in the form of powder or
18 gel. Each of the agarose, the agar and the gelatin is a transparent substance that is gelated at
19 about 35°C, melted at higher than about 90°C and has flexibility in a solid phase.

20 On page 6, lines 13, 14, 15 and 16, please replace the paragraph with the following
21 amended paragraph:

22 Each of the plate 2 and the cover 4 as the major components of the present auxiliary
23 tool may be prepared by preparing a mold 14 having a proper size and a proper shape,

1 pouring a substance capable of being gelated, such as agarose, agar or gelatin, into the mold
2 14, and cooling the mold 14.

3 On page 6, lines 17 and 19, please replace the paragraph with the following amended
4 paragraph:

5 In addition, to prevent the plate 2 and the cover 4 prepared from being dried or
6 decomposed, they are preferably stored in an organic solvent, such as alcohol, until use for
7 examination of a biopsy specimen 10.

8 On pages 6-7, lines 20, 21, 22 and 1, please replace the paragraph with the following
9 amended paragraph:

10 On the other hand, the plate 2 as a major component of the auxiliary tool of the
11 present invention may include at least one depression 6 provided on a surface thereof, into
12 which a biopsy specimen is introduced. The depression 6 may be controlled in size, depth,
13 shape, and the like, according to the size and amount of a biopsy specimen to be examined.
14 Also, the number of the depressions 6 may be determined according to the kind of biopsy
15 specimens to be examined, staining methods, and other distinctive test methods, and may be
16 formed one or more.

17 On page 7, lines 4, 5, 6 and 7, please replace the paragraph with the following
18 amended paragraph:

19 In addition, the cover 4 as a major component of the auxiliary tool of the present
20 invention may include at least one projection 8 provided on a surface thereof, which is
21 inserted into the depression 6 of the plate 2. The size, height, shape and number of the
22 projections 8 may vary according to the size, depth, shape and number of the depressions 6,
23 so that the projections 8 are capable of preventing contamination and loss of a biopsy

1 . specimen to be examined.

2 On page 7, lines 12 and 13, please replace the paragraph with the following amended
3 paragraph:

4 In an aspect, the auxiliary tool of the present invention may be processed to prepare a
5 histological or cytological preparation capable of preventing contamination and loss of a
6 biopsy specimen through a process including introducing the biopsy specimen into the
7 depression 6 provided on the surface of the plate 2, placing onto the plate 2 containing the
8 biopsy specimen the cover 6 having the projection 8 which covers the depression 6 by being
9 inserted therein. Thus, the auxiliary tool facilitates examination of the biopsy specimen.

10 On page 7, lines 16, 17 and 18, please replace the paragraph with the following
11 amended paragraph:

12 In addition, the auxiliary tool of the present invention may be processed to prepare an
13 embedding block 18 after being pretreated, for example, sequentially with alcohol, xylene
14 and a wax 16. The embedding block 18 containing a biopsy specimen may be sectioned into
15 a proper thickness using a tissue microtome 22 to provide a histological or cytological
16 preparation that will be evaluated by a typical test method.

17 On pages 7-8, lines 22, 23, 1, 2, 3, 4, 5 and 6, please replace the paragraph with the
18 following amended paragraph:

19 ~~FIG.~~ Fig. 1 is a perspective view of an auxiliary tool including a plate 2 and a cover 4
20 according to a first embodiment of the present invention. ~~FIG.~~ Fig. 2 is a perspective view of
21 an auxiliary tool including a plate 2 and a cover 4 according to a second embodiment of the
22 present invention. ~~FIG.~~ Fig. 3 is a sectional view showing a state at which the cover 4 of the
23 auxiliary tool of ~~FIG.~~ Fig. 1 is inserted into the plate 2 thereof. ~~FIG.~~ Fig. 4 is a schematic

1 view showing a process of preparing an embedding block 18 using the auxiliary tool of the
2 present invention, into which a biopsy specimen has been introduced. ~~FIG.~~ Fig. 5 is a top
3 plane view of a thin section 20 of the embedding block 18 of ~~FIG.~~ Fig. 4, which is placed on
4 a slide 24 for microscopic examination of the biopsy specimen.

5 On page 8, lines 8, 9, 10 and 11, please replace the paragraph with the following
6 amended paragraph:

7 As shown in ~~FIGS.~~ Figs. 1 and 2, the auxiliary tool of the present invention is
8 composed of a plate 2 and a cover 4. The plate 2 and the cover 4 may be prepared by
9 preparing molds 14 in forms capable of providing the plate 2 and the cover 4 as shown in
10 ~~FIGS.~~ Figs. 1 and 2, pouring a substance capable of being gelated into each of the molds 14,
11 and cooling the molds 14. Preferably, the plate 2 and the cover 4 may be prepared by using a
12 1% to 5% agarose or agar solution or a 1% to 5% gelatin solution. Most preferred is a 1% to
13 5% agarose solution. To prevent the plate 2 and the cover 4 from being dried or decomposed,
14 they may be stored in an organic solvent such as alcohol, and preferably, about 10% to 100%
15 alcohol, until they are used for examination of a biopsy specimen.

16 On pages 8-9, line 19, please replace the paragraph with the following amended
17 paragraph:

18 On the other hand, the plate 2 is characterized by including a depression 6 provided
19 on a surface thereof to contain a biopsy specimen 10 and prevent contamination and loss of
20 the biopsy specimen 10. The size of the plate 2 may vary depending on the size of a cassette
21 12 used in a conventional test method. Preferably, the plate 2 has a width to length ratio
22 ranging from 1:1 to 1:3. The thickness of the plate 2 may vary depending on the amount and
23 size of the biopsy specimen 10 introduced thereinto. In addition, the depression 6 provided

1 on the surface of the plate 2 may vary in size and thickness according to the amount and size
2 of the biopsy specimen 10. Preferably, the depression 6 has a width to length ratio ranging
3 from 1:1 to 1:3. The depth of the depression 6 may vary depending on the amount and size of
4 the biopsy specimen 10 introduced therein.

5 On page 9, lines 4, 5, 6 and 7, please replace the paragraph with the following
6 amended paragraph:

7 In another aspect, the depression 6, as shown in ~~FIG.~~ Fig. 2, may be formed on the
8 surface of the plate 2 in a number of one or more according to the kind of a biopsy specimen
9 10 to be tested, staining methods, and other distinctive test methods. It is preferred that the
10 plate 2 has 1 to 10 depressions 6.

11 On pages 9-10, line 20, please replace the paragraph with the following amended
12 paragraph:

13 On the other hand, as shown in ~~FIG.~~ Fig. 3, the auxiliary tool of the present
14 invention may be processed to prepare a histological or cytological preparation capable of
15 preventing contamination and loss of the biopsy specimen 10 by a process including
16 introducing the biopsy specimen 10 into the depression 6 provided on the surface of the plate
17 2, placing onto the plate 2 containing the biopsy specimen 10 the cover 4 having the
18 projection 8 which covers the depression 6 by being inserted therein. Thus, the auxiliary
19 tool facilitates examination of the biopsy specimen.

20 On page 10, lines 4, 5 and 6, please replace the paragraph with the following amended
21 paragraph:

22 In a further aspect, the auxiliary tool of the present invention, after a biopsy specimen
23 10 is introduced therein, may be embedded in a wax 16, such as paraffin or bee wax 16, to

1 provide an embedding block 18. The embedding block 18 may be sectioned to give a
2 histological or cytological preparation that will be examined by a conventional test method.

3 On page 10, lines 8, 10 and 11, please replace the paragraph with the following
4 amended paragraph:

5 Before being processed to prepare the embedding block 18, the auxiliary tool
6 containing the biopsy specimen 10 may be subjected to a pretreatment process including
7 dehydration with alcohol, clearing by immersion in xylene and penetration with a wax 16,
8 such as paraffin or bee wax 16.

9 On page 10, lines 12 and 18, please replace the paragraph with the following amended
10 paragraph:

11 As shown in ~~FIG.~~ Fig. 4, after being pretreated as described above, the auxiliary tool
12 containing the biopsy specimen 10 is placed in a base mold 14, and a small amount of a wax
13 16 is poured onto an upper portion of the auxiliary tool. Then, the auxiliary tool is cooled to
14 provide a solid embedding block 18. Hereinafter the wax 16 is poured onto the auxiliary
15 tool, the auxiliary tool is preferably covered with a cassette 12. This is because a tissue
16 microtome 22 typically used upon sectioning of the embedding block 18 has a holder fitting
17 to the cassette 12, and thus facilitates the attachment and detachment of the embedding block
18 18 to and from the tissue microtome 22. Therefore, the embedding block 18 may be fixed
19 onto the tissue microtome 22 via the cassette 12, and sectioned into a thin thickness to
20 provide a section 20 containing the biopsy specimen 10 as a histological or cytological
21 preparation.

22 On page 10, line 22, please replace the paragraph with the following amended
23 paragraph:

1 Finally, as shown in ~~FIG.~~ Fig. 5, the thin section 20 may be attached onto a
2 transparent glass slide 24, subjected to a desired test, and then microscopically observed.

3 On page 11, line 4, please replace the paragraph with the following amended
4 paragraph:

5 **EXAMPLE 1: Preparation of an auxiliary tool comprising a plate 2 and a cover 4**
6 **according to the present invention**

7 On page 11, lines 8, 9, 10, 11 and 12, please replace the paragraph with the following
8 amended paragraph:

9 The resulting agarose solution was poured into each of a plate 2 mold 14 and a cover
10 4 mold 14, and then slowly cooled to room temperature for gelation. The resulting gelated
11 plate 2 was 10 mm wide, 10 mm long and 4 mm thick, and included a depression 6 which
12 was 5 mm wide, 5 mm long and 3 mm deep on a surface thereof. The gelated cover 4 was 10
13 mm wide, 10mm long and 1.5 mm thick, and included a projection 8 which was 4 mm wide,
14 4mm long and 1 mm high on a surface thereof.

15 On page 11, line 14, please replace the paragraph with the following amended
16 paragraph:

17 **EXAMPLE 2: Preparation of an embedding block 18 containing a biopsy**
18 **specimen 10 using the auxiliary tool of the present invention and sectioning thereof**

19 On page 11, lines 16, 17 and 18, please replace the paragraph with the following
20 amended paragraph:

21 A biopsy specimen 10 was introduced into the depression 6 of the plate 2 prepared in
22 Example 1, and the cover 4 prepared in Example 1 was then inserted onto an upper portion of
23 the plate 2.

1 On page 11, line 19, please replace the paragraph with the following amended
2 paragraph:

3 The auxiliary tool including the plate 2 and the cover 4 inserted on the plate 2 was
4 dehydrated by being immersed in 70% alcohol, 80% alcohol, 90% alcohol and then 100%
5 alcohol, for 1 hr to 2 hrs in each case. The dehydrated agarose gel was cleared by immersion
6 in xylene for 2 to 4 hrs, and then penetrated with paraffin for 2 to 4 hrs.

7 On pages 11-12, lines 23, 3, 4 and 5, please replace the paragraph with the following
8 amended paragraph:

9 The auxiliary tool prepared as described above was placed into a base mold 14 in a
10 direction at which a surface to be cut thereof was downwardly positioned in an embedding
11 system (Embedding Center, MICROM, Germany). After a small amount of paraffin was
12 added to the base mold 14, the base mold 14 was slightly covered with a cassette 12 and
13 placed on a cold plate 2 to solidify the paraffin. After the paraffin was completely solidified,
14 the cassette 12 was separated from the base mold 14 to give an embedding block 18.

15 On page 12, lines 6 and 7, please replace the paragraph with the following amended
16 paragraph:

17 Thereafter, the completed embedding block 18 was cut into a thin section 20 ranging
18 from 4 to 8 μm using a tissue microtome 22. Each of the thin sections 20 was attached onto a
19 glass slide 24, subjected to a desired test, and then microscopically observed.

20 On page 12, lines 11 and 14, please replace the paragraph with the following amended
21 paragraph:

22 As described hereinbefore, the auxiliary tool of the present invention is capable of
23 preventing contamination and loss of biopsy specimens 10, and simply and accurately

1 , processing a solid or viscous sample to prepare a histological or cytological preparation.

2 Therefore, the auxiliary tool has an effect of improving efficiency of histological or

3 cytological examination of biopsy specimens 10.

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